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EXAMINER

JOLLEY, KIRSTEN

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 08/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,693

Applicant(s)

YAMANE ET AL.

Examiner

Kirsten Crockford Jolley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figure 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. It appears that in Figure 3, Embodiment 1, the circle in the lower right corner of the drawing is missing the word --constant-- at the end of the text inside the circle (to make the text of Embodiment 1 correspond to that of Embodiment 2).

Claim Objections

3. Claims 1-10 are objected to because of the following informalities:

Claims 1-10 are directed to "a recycle system of aqueous paint" (which suggests that the claims are directed to an apparatus), however the claim limitations are process limitations. It is noted that the claims are being treated as being directed to a *method* of using a recycle system in response to a telephone call made to Applicant's attorney on December 3, 2002, in which the attorney stated that the claims appear to be directed to a method and not an apparatus. The preamble of claims 1-10 should be amended to indicate that the claims are directed to a process.

Appropriate correction is required.

Examiner's Suggestions

4. The following informalities were noted in Applicant's specification:

On page 8 of the specification, lines 8-9, the phrase "water 6 is sent to the condensation bath 7 as same amount as the filtrate..." is awkwardly worded. The Examiner suggests replacing the first occurrence of "as" with --in the--.

On page 9, lines 1-2, the phrase "water is supplied thereto as the same amount as the loss of liquid..." is awkwardly worded. The Examiner suggests replacing the first occurrence of "as" with --in--.

On page 9, lines 10-11, the phrase "booth circulation water 6 in the booth circulation bath 5 is present in an increased amount *as same as* the filtrate amount sent from the filtrate bath 10... [emphasis added]" is awkwardly worded and confusing. The Examiner suggests that Applicant clarify the sentence.

On page 9, lines 22-23, the phrase "water is supplied as the same amount as the loss of liquid..." is awkwardly worded. The Examiner suggests replacing the first occurrence of "as" with --in--.

On page 9, line 25, the phrase "This is made material balance constant" is awkward language. The Examiner suggests replacing "is made" with --makes the--.

On page 11, line 3, the phrase "in addition to or in replace with" is awkwardly worded. The Examiner suggests that Applicant clarify the sentence.

On page 12 of the specification, line 2, it appears that the phrase "solvent other water" should be --solvent other than water--.

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5. In claim 1, line 4, the phrase "paint that does not adhere with the article" is awkward. The Examiner suggests replacing "with" with --to--.
6. In claim 1, line 8, the Examiner has interpreted the word "it" as referring to "the collected solution" from a reading of the specification. The Examiner suggests that the word "it" is replaced with --the collected solution-- in order to further clarify the claim.
7. In claim 1, line 11, the Examiner has interpreted the word "it" as referring to "the condensed paint" from a reading of the specification. The Examiner suggests that "it" is replaced with --the condensed paint-- in order to further clarify the claim.
8. In claim 1, lines 12-13, the phrase "a total amount of liquid ... is controlled constant" is awkward wording. The Examiner suggests replacing "controlled" with --maintained--.
9. In claim 3, line 3, it appears that "taking" should be --taken--.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Yamane (US 2002/0000191).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Yamane discloses in its Background section a prior art process of spraying and recycling aqueous paint (paragraph [0003] and Figure 2). In this process, Yamane discloses a process comprising the following steps: coating an article 301 with an aqueous paint in a water-curtain type coating booth 300; collecting overspray paint that does not adhere to the article by the water-curtain 303; sending the collected solution to a condensation bath 305 through a booth circulation water bath; separating the collected solution by an ultrafiltration apparatus 307 into condensed paint and filtrate; transferring the condensed paint to a paint tank 310; adjusting/re-preparing the condensed paint; and coating the condensed paint via coating gun 302. It is known that the total amount of liquid present within the recycle system is maintained constant during the spray coating and recycling process because the filtrate is entirely recycled back into the system as shown with the dotted lines in Figure 2. Thus, with respect to claim 2, $(V_w + V_x + V_y + V_z)$ is necessarily kept constant.

As to claim 3, it is noted that the phrase/limitation "in case where the system further comprises a settling tank for storing the booth circulation water and a rinse tank for storing filtrate taking out of the filtrate bath, a total ... is kept constant" is interpreted as requiring a constant total when a settling tank and rinse tank are present. However, claim 3 does not require

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a settling tank and rinse tank as required components, but rather as optional components.

Therefore, it is noted that though Yamane does not teach the use of a settling tank or rinse tank, claim 3 is anticipated by the reference because the limitation of claim 3 is only required when a settling tank and rinse tank are present.

12. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Saatweber et al. (US 5,453,301).

Saatweber et al. discloses a process for spray painting and recycling comprising the following steps: coating an article with an aqueous paint 7 in a water-curtain type coating booth; collecting overspray paint that does not adhere to the article by the water-curtain 8; sending the collected solution to a condensation bath 13 through a booth circulation water bath at bottom of booth; separating the collected solution by an ultrafiltration apparatus 17 into condensed paint and filtrate; transferring the condensed paint to a paint tank (topping-up unit) ; adjusting the condensed paint; and coating the condensed paint via spray unit 6 (col. 6, line 33 to col. 7, line 59).

While the recycle system of Saatweber et al. additionally comprises a second ultrafiltration unit and processing steps, Applicant's broad "comprising" claim language is open to the inclusion of additional process steps. The transitional term "comprising," which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 948)

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("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts").

It is known that the total amount of liquid present within Saatweber et al.'s recycle system is maintained constant during the spray coating and recycling process because the permeate/filtrate from both ultrafiltration apparatus 17, 25 are entirely recycled back into the system via lines 19, 27. Thus, with respect to claim 2, $(V_w + V_x + V_y + V_z)$ is necessarily kept constant.

As to claim 3, it is noted that the phrase/limitation "in case where the system further comprises a settling tank for storing the booth circulation water and a rinse tank for storing filtrate taking out of the filtrate bath, a total ... is kept constant" is interpreted as requiring a constant total when a settling tank and rinse tank are present. However, claim 3 does not require a settling tank and rinse tank as required components, but rather as optional components. Therefore, it is noted that though Saatweber et al. does not teach the use of a settling tank or rinse tank, claim 3 is anticipated by the reference because the limitation of claim 3 is only required when a settling tank and rinse tank are present.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 4-10 are rejected under 35 U.S.C. 103(a) as being obvious over Yamane (US 2002/0000191).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or

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subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Yamane teaches that the filtrate 309 is stored in the filtrate bath 308 and can be used as the water-curtain 303 or as a solution for washing. It is noted that, when the filtrate 309 is used as a solution for washing/cleaning the paint booth, the filtrate will then inherently be sent to the condensation bath because, in Yamane's prior art system, all water and liquids are collected at the bottom of paint booth 300 and sent to condensation bath 305 (see Figure 2).

With respect to claims 4 and 5, Yamane does not specifically teach that, after filtrate is used for washing/cleaning the paint booth and sent to the condensation bath, spray coating is then re-started after the washing/cleaning process is complete. It is the Examiner's position that it would have been obvious for one having ordinary skill in the art to have re-started the coating process after the paint booth is cleaned/washed in order to coat more articles. Cleaning between coating steps is well known in the spraying art to ensure that paint overspray or other contaminants do not accumulate on the paint booth surface thus providing an uneven surface for the water curtain, for example, or clogging the spray gun, etc. With respect to claim 5, supplying water into the condensation bath inherently occurs after the re-start of spray coating when the water from water curtain circulates to the condensation bath.

As to claims 6-10, Yamane teaches "re-preparing" concentrated paint 306 in concentrated paint tank 310 before supplying it to the coating gun for subsequent coating in paragraph [0003]. While Yamane does not specifically teach that re-preparing constitutes adding another aqueous paint and volatile component, it would have been obvious for one having ordinary skill in the art to have determined which components of the concentrated paint have been depleted through the

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recycle process, and to have added those components to the concentrated paint solution so that the paint reaches appropriate concentrations of the ingredients required for suitable spray painting results.

16. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saatweber et al. (US 5,453,301).

Saatweber et al. teaches that the ultra-filtration retentate is mixed with topping-up concentration "so as to produce the aqueous coating agent suitable for spray application by spray unit 6 in spray booth 1" (col. 7, lines 51-55). Saatweber et al. also states "In the topping-up unit further constituents can also be mixed in which were drawn off during the process from circuits A, B or C, e.g. water or volatile constituents" (col. 7, lines 56-59). While Saatweber et al. does not specifically teach that the topping-up concentrate contains another aqueous paint, it would have been obvious for one having ordinary skill in the art to have determined which components of the concentrated paint have been depleted through the recycle process, and to have added those components to the concentrated paint solution so that the paint reaches appropriate concentrations of the ingredients required for suitable spray painting results.

17. Claims 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saatweber et al. as applied to claims 1-3 and 6-8 above, and further in view of Yamane.

With respect to claims 4 and 5, Saatweber et al. lacks a teaching of using its filtrate/permeate for cleaning the inside of the coating booth. Yamane is cited for its prior art teaching of a similar, conventional aqueous paint coating and recycling system (the recycle

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system of Yamane is functionally similar to that of Saatweber et al., except that it lacks a second ultrafiltration circuit). Yamane discloses in its Background section (paragraph [0003]) that the ultrafiltration filtrate may be used as a solution for washing the coating booth. It would have been obvious for one having ordinary skill in the art, upon seeing the prior art of Yamane, to have used the filtrate in the process of Saatweber et al. to clean the coating booth because such use of the filtrate would eliminate having to supply an additional system and source of water for cleaning the coating booth, since it is well known in the spray painting art to occasionally clean the booth between coating steps to ensure that paint overspray or other contaminants do not accumulate on the paint booth surface thus providing an uneven surface for the water curtain, for example, or clogging the spray gun, etc.

Further, with respect to claim 4, it is the Examiner's position that it would have been obvious for one having ordinary skill in the art to have re-started the coating process after the paint booth is cleaned/washed in order to coat more articles. With respect to claim 5, supplying water into the condensation bath 13 would inherently occur after the re-start of spray coating when the water from water curtain 8 circulates to the condensation bath.

Claims 9-10 are rejected for the same reasons discussed above with respect to claims 6-8 in section 17.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saatweber et al. (US 5,569,384), Freese et al. (US 5,393,390), Gerigk et al. (US

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5,490,939), and Watanabe et al. (US 6,251,483) are cited to demonstrate the state of the prior art related to the instant invention.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kirsten Crockford Jolley whose telephone number is 703-306-5461. The examiner can normally be reached on Monday to Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on 703-308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1193.

kcj
August 11, 2003

Kirsten C. Jolley
Kirsten C. Jolley
Patent Examiner
Technology Center 1700